AN UPDATE FOR WISCONSIN GOVERNMENTS AND RECYCLERS

RECYCLING NEWS

❄ WINTER 1999 ❄

BUREAU OF WASTE MANAGEMENT
WISCONSIN DEPT. OF NATURAL RESOURCES

Old Computers are New Problems for Landfills—So Recycle Them

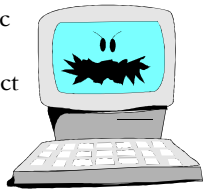
At home, work, school and even on airplanes, Americans love their computers. Millions of people surf the Internet and send and receive email daily. To keep up with consumer expectations, computer manufacturers are constantly developing faster, smarter and cheaper machines. Industry experts say that a new generation of computer technology is born every 18 months, and users are looking for the latest software and hardware.

In 1996, Americans purchased about 25 million computers, a 21 percent increase over 1995 sales. And with the 21st century approaching, computer sales are expected to increase even more as people try to avoid the cost of upgrading their old computers to solve the year 2000 problem.

But what happens to the old computers left in the wake of the latest speed demons?

A study at Carnegie Mellon University estimates that 12 million to 14 million computers are discarded annually in the United States. Beyond those estimates, many old computers are being stored in empty offices, classrooms and attics. Some people have a difficult time parting with older machines, having invested a large sum of money in them. But when the day rolls around to get rid of unwanted computer components, it is important to understand the regulations involved. It's not as simple as calling your local waste hauler for an extra dumpster.

Old computer equipment—monitors, keyboards, central processing units (CPUs), printers, mice, etc.—must be specially managed because their printed circuit boards and cathode ray tubes (CRTs) contain toxic metals. The toxic metal concentration in circuit boards and CRTs may exceed federal and state hazardous waste limits. Monitors and terminals should be the only computer components that contain CRTs. The amount of lead in CRTs is usually about 25 percent by weight.



Because of their toxic metal content, old computers can be subject to full hazardous waste regulation if they are

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Demonstration Grants Fund New Business Adventures

Governor Tommy Thompson recently announced that the DNR will accept a second round of applications for the annual Solid Waste Reduction and Recycling Demonstration Grant Program. The program offers $1 million in cost-sharing grants each year for waste reduction, reuse and recycling efforts in Wisconsin. Applications for the current grant cycle were due in February. The next application deadline is Aug. 1, pending legislative action.

Since 1990, the program has provided over $8 million to help fund more than 100 projects. Grant recipients complete their projects on a pilot or demonstration scale, but must show potential for expanding the projects to wider use. Projects should demonstrate an innovative idea or target special and hard-to-recycle wastes.

Control Resources Inc. (CRI) in Woodville recently received a $109,735 grant to demonstrate the economic and technical feasibility of recovering oil from used adsorbents (materials like clay pellets or cloth batting used to clean up oil spills in auto and airplane garages). CRI distributes the cleaned absorbents to customers and recycles the recovered oil.

Other projects funded by the program include a community product exchange in Winnebago County to promote reuse of materials that would otherwise become hazardous waste and a computer refurbishing operation at a state corrections facility.

One of the program's current funding priorities is computer reuse and recycling. Studies indicate that computers are a growing waste problem, since 12 million to 14 million obsolete machines are discarded annually. Another priority is to reduce waste at construction and demolition sites and from heavy industry.

A special grant category created last year encourages community-wide waste-reduction projects. Applicants in this category can receive funding for 75 percent of total eligible project costs (compared to 50 percent for typical projects). The increased funding supports the DNR's waste management hierarchy of reducing and reusing materials first, then recycling what's left.

Private businesses, public entities, Wisconsin counties and municipalities, nonprofit organizations and schools may apply for the grants. Applicants must show they have the technical ability and experience to complete the project and must be able to match the DNR's grant amount.

For more information, contact Sheila Henneger, DNR Bureau of Community Financial Assistance, at (608) 266-9426; email at hennes@dnr.state.wi.us. ❄

The Paperless Office

Despite computer use, businesses today use twice as much paper as they did in 1982. According to some industry experts, 94 percent of all business information is still recorded on paper. In fact, an estimated 2.4 billion new sheets of paper are filed into paper folders every day. The United States uses more paper than any other country in the world.

While office paper is a high grade paper with good recycling markets, it makes sense to reduce paper use and reuse paper whenever possible before recycling it.

Here are some ways to reduce and reuse office paper:

- Copy only what you really need. For example, store email messages on the hard drive so they can be printed later if necessary.

- Keep a stack of used paper next to the copy machine and use the blank side for internal copies.
- Use the duplex function on a copy machine to copy on both sides of a sheet of paper. For example, a two-page document reduces paper use by 50 percent.
- Reduce the image of text to be copied on a copy machine using its reduction feature. Two 8.5 by 11 inch sheets of text can be copied on one sheet of paper by reducing the size to 75 percent.
- Send electronic messages whenever possible. If you must use a paper copy, route it only to the people who really need the information, or post it in a shared area of the office.
- Invest in a new software package that uses electronic technologies to save paper, like Adobe Acrobat.

For information on a related web site, see "The World of Wastes on the Web" section in this newsletter. The DNR does not endorse or support specific products or services.

U.S. businesses use about 21 million tons of paper every year. That's about 175 pounds for every single American.

More than 350 million trees are cut every year to make office paper.

About 70 percent of all office trash is used paper which could easily be recycled.

By switching from a full sheet to a half-sheet cover notice on a fax you save about six rolls of fax paper a year.

Plain paper fax machines use recyclable paper. Thermal paper fax machines do not.

From *50 Simple Things Your Business Can Do to Save the Earth*, by EarthWorks Group, EarthWorks Press, Berkeley, CA, 1991.

Municipalities Build Recycling Programs with State Funds

Every year since 1992 responsible units (RUs) have applied for funds from Wisconsin's Recycling Grants to Responsible Units program. In eight years, the DNR has awarded almost $208 million to RUs to help pay for building and maintaining community drop-off sites, collecting recyclables, operating curbside collections, educating residents and other recycling-related projects.

In 1999, grant offers totaling $24 million were made to 1,012 RUs. Their total net eligible recycling costs are projected to exceed $77 million. This results in the State of Wisconsin paying an average of 31 percent of a community's recycling costs. Individual awards range from 19 to 100 percent of an RU's recycling costs.

The state legislature in the last budget process made a committment to fund recycling through 2004. The biennial budget process began on Feb. 16 with the release of the Governor's proposed budget. Details of the budget were not available at press time.

RUs can contact their legislators for more information about recycling grants or to express their opinions about the future funding of recycling.

For information about RU grants, contact your regional recycling grants specialist, or JoAnne Farnsworth, Community Financial Assistance at (608) 267-7154.

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Computer Recycling

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not reused or if metals are not reclaimed from them for reuse. Businesses and institutions are not permitted to dispose waste computers in solid waste landfills or incinerators if the toxic metal content exceeds the hazardous waste limits. Otherwise, the toxic metals could contaminate the environment and cause health problems. Household computers are subject to Wisconsin hazardous waste regulation, if they are managed separately from the rest of the household waste. Note that local ordinances or waste management company business practices may ban disposal of household computers in solid waste landfills or incinerators, even if they are disposed with the rest of the household's waste.

If you're a business or institution sitting on a pile of old computers, the following options can help you manage your old computers without landfilling or incinerating them. The DNR is developing revised guidance to encourage computer reuse and recycling. Increased computer reuse and recycling should reduce heavy metal contamination of the environment and reduce the burden on businesses and institutions to manage old computers as fully regulated hazardous waste. By following these options, a business or institution may recover some of its original capital investment or qualify for a tax deduction.

COMPUTER RESALE

Some companies sell or give old computer equipment to their employees. Selling your old equipment to a company that buys, sells and trades used computers is another option. Check your yellow pages under "Computers and Computer Equipment" for computer resellers and used equipment. Asset management companies collect surplus electronics from corporations and refurbish them. A list of these companies can be found at: http://www.remarketing.com/ html/user/list-brokers.cgi

COMPUTER DONATIONS

Many nonprofit organizations are seeking computer donations. As an added benefit to you, the depreciated value of the donated equipment is tax deductible. In addition, the Taxpayers Relief Act of 1997 allows you to deduct the full purchase price of equipment up to two years old as well as installation and transfer costs. To be eligible for this deduction, the computer equipment must be donated to a K-12 school or to a foundation that supports such a school. Before donating your old computer, be sure to check with the organization to make sure your computer is compatible with their current system.

A list of international refurbishing organizations and community computer user groups that accept donations of computer equipment can be found at http://www.libertynet.org/share.

MATERIALS EXCHANGE

Materials exchange programs manage lists of materials and users seeking them. List your computers with a materials exchange to find a match. In Wisconsin, contact the Business Materials Exchange (BMEX) at (800) 364-3233.

RECYCLERS

Computer recyclers disassemble computers and similar equipment to reclaim their valuable materials. Recyclers may sell the reclaimed materials or refurbish computers using the reclaimed parts. For a list of salvage operations, recycling centers and demanufacturing operations who serve Wisconsin, refer to the Wisconsin Recycling Markets Directory on the DNR's Bureau of Waste Management web site at http://www.dnr.state.wi.us/org/aw/wm/recycle/recycle.htm. To order a hard copy, call (608) 267-7582.

Before choosing a computer recycler, it is your responsibility to verify that the company:

- meets the applicable regulatory requirements.
- meets appropriate environmental, health and safety standards
- and has outlets to safely and legally recycle or dispose of the recovered materials.

To safeguard your business or institution, be certain that your computer recycler recycles the components—especially thecircuit boards and CRTs—or manages them as fully regulated hazardous waste.

Various Wisconsin organizations are working to expand opportunities for recycling businesses to reuse, refurbish or recycle the old computers coming from offices, schools and homes. The following resources can assist recycling companies that are interested in expanding to the computer recycling marketplace.

- The Recycling Markets Development Board (Department of Commerce) has budgeted $500,000 this fiscal year to support the development or expansion of computer recycling projects. For information contact John Katers at (920) 465-2941 or e-mail katersj@uwgb.edu.
- The DNR's Waste Reduction and Recycling Demonstration Grant program provides matching grants to individuals, businesses or groups that propose innovative ideas for waste reduction and recycling. The DNR is currently looking for computer-related demonstration projects. For information contact Sheila Henneger at (608) 266-9426 or e-mail hennes@dnr.state.wi.us.
- The revised, draft DNR fact sheet, Management of Old (formerly Obsolete) Computers, will more accurately summarize regulatory implications for businesses and institutions. To order the revised draft fact sheet, which should be available by March 15, call (608) 267-7566.

For other questions about managing old computers, call Susan Hundt Bergan, DNR Business Sector Specialist, at (608) 264-6032 or e-mail bergas@dnr.state.wi.us.

1998 Governor's Awards Program Highlights Successful Groups

Governor Tommy Thompson and DNR Secretary George Meyer recently recognized 12 winners of the state's Waste Reduction and Recycling Awards Program for their outstanding efforts.

Established by the governor in 1993, the program honors Wisconsin businesses, citizens, communities and schools for innovative solid waste management practices. The Recycling Market Development Board provided funding for the 1998 program.

This year a new Model Special Events Award was presented to three groups. Of the three, the Portage County Solid Waste Management Department and the Intra-State Recycling Corporation organized a cooperative multi-county home composting bin sale. In eight weeks, 880 Home Composter bins were sold in Portage, Adams, Marathon, Waupaca and Wood Counties. Portage County alone sold 423 bins, doubling the number of bins they sold in the previous five years.

The 1998 winners are:

MARKET DEVELOPMENT STAR AWARD

- Sal Service and Briggs & Stratton, Racine County

MODEL BUSINESS ACHIEVEMENTS

- Goodwill Industries of South Central Wisconsin, Inc., Dane County
- Kondex Corporation, Dodge County
- Thorstad Chevrolet, Dane County

MODEL COMMUNITY ACHIEVEMENT

- Town of Beloit, Rock County

MODEL CITIZEN ORGANIZATION ACHIEVEMENTS

- Marquette High School Science Club, Milwaukee County
- Southeast Wisconsin Waste Reduction Coalition, Waukesha County

MODEL SCHOOL ACHIEVEMENTS

- Somerset Middle School, St. Croix County
- Trees For Tomorrow, Vilas County

MODEL SPECIAL EVENT AWARDS

- Town of Beloit, Rock County
- Portage County Solid Waste Management Department and Intra-State Recycling Corporation, Portage County
- Festivals Work Group of the Southeast Wisconsin Waste Reduction Coalition, Milwaukee County

Each winner received an engraved mantle clock made of used newspaper and soybean by-products. The faces were printed on recycled paper.

For more information about the awards program, contact Shelley Heilman at (608) 267-0873, or email at heilms@dnr.state.wi.us.

Recycling Markets Down But Not Out

Those in the recycling business can't help noticing some significant changes in prices paid for recyclables over the last year. While prices for recyclables have always been cyclical, it is unusual that prices for many materials are low at the same time.

The main reason for this across-the-board price decline is the changing world economy. Due to downturns in the Asian markets, U.S. pricing structures have also declined. A weaker world economy causes the supply of virgin materials to exceed the demand for them. When supply exceeds demand, prices fall. When virgin prices fall, prices for recyclable materials also decrease. In some cases, virgin materials are now cheaper than the recycled equivalent. For example, record-low prices for crude oil (used to make plastic resins) are making some virgin resins cheaper than secondary plastics.

The following chart compares prices paid per ton of loose recyclables in 1998, sold to end-users (factories and mills) in semi-load quantities:*

Material	Jan.	Dec.
HDPE, Natural	360	120
PET, Clear	200	120
Newspaper #6	3	0
Corrugated Cardboard	25	5
Magazines	2	0
Aluminum Cans	740	600
Steel Cans	45	23

Only glass prices remained unchanged in 1998. Clear glass stayed at $30 per ton; brown glass stayed at $25 per ton; and green glass stayed at $5 per ton over the last 12 months.

Note that these prices do not include costs of collecting, transporting or processing recyclables. An RU's contractor or hauler may actually raise contract fees for collection and processing since the prices haulers receive for materials from the end users are decreasing. RUs should contact their haulers with questions about their contracts if they anticipate any changes in the future.

Some industry sources say prices for recyclables will not improve until the world economy improves. At this point, there is very little Wisconsin businesses or government can do to solve the problem.

While not all materials, processors or manufacturers are currently affected, the DNR suggests that all participants in the recycling infrastructure keep track of local conditions. Please contact your regional DNR recycling staff if major changes occur.

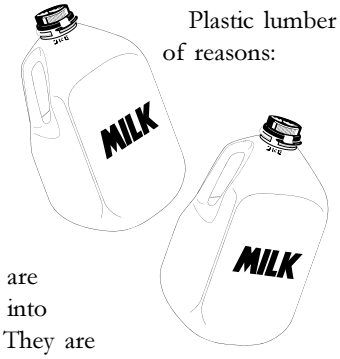
**From Waste News based on prices paid by Chicago area recyclers for loose materials. Prices are offered as a method of tracking overall trends in the Midwest and may not accurately reflect the price specific Wisconsin responsible units receive for a commodity.*

Analysis and statistics provided by John Hendren, Commodity Specialist, Recycling Market Development Board and Mary Kohrell, Recycling Market Specialist, Solid and Hazardous Waste Education Center-Green Bay.

Using Recycled Plastic Lumber Builds Benches and Markets

With spring just around the corner, consider purchasing a functional and attractive recycled product for your community or business—plastic dimensional lumber.

Plastic "wood" has been manufactured in Wisconsin for over a decade. Two Wisconsin companies currently manufacture the wood using post-consumer plastic milk jugs as the main material. (See related article on page 7.)



To make the lumber, post-consumer high density polyethylene (HDPE) milk jugs are cleaned and shredded or ground into pellets. Labels are not removed. They are extruded with the plastic without problems. Color and other additives like ultraviolet stabilizers may be added before the ground plastic is pressed through an extrusion process. The pieces are cooled, stacked and ready to use.

The wood is useful in a wide variety of applications:

- School districts, campgrounds and community recreation centers can substitute plastic lumber for wood when building or repairing picnic tables, benches or play structures.
- Marinas can use it as a rot-free alternative to wood.
- Homeowners can build decks, fences and dog houses.
- Municipalities find it makes a suitable picnic table, bench, fence or landscaping edging.

Four years ago, the DNR office in Spooner constructed two picnic tables, two benches and an outdoor handrail from plastic wood. According to Chris Wilmot, purchasing agent for the DNR's Northern Region, the structures are attractive and have weathered well.

Plastic lumber is beneficial for a variety of reasons:

- The colors are blended with pellets during manufacturing so the lumber never needs to be painted.
- The lumber won't crack, split, rot or sliver. Since it is non-degradable, it does not need hazardous preservatives to protect it.
- Insects, animals or other pests can't eat it.
- Carpenters can saw, drill or route the lumber with standard power or hand tools. They can also fasten it with standard bolts, nails or staples.
- The wood resists burning, spray painting, carving and other acts of vandalism.
- Unlike wood, it is free of knots, splits or other imperfections.
- Sizes and colors can be adjusted to customer specifications. Plastic lumber can be textured if requested to reduce slipping in uses like docks and decks.

Plastic lumber is more flexible, making it more impact resistant than traditional lumber. However, this means more supports are necessary in load-carrying applications like picnic tables.

Another consideration is the price. Plastic lumber is more expensive than most wood types. However, the higher initial cost is offset by minimal long-term maintenance costs. For example, plastic boards will not have to be repainted.

Plastic lumber also offers environmental benefits:

- The manufacturing process does not generate harmful air, water or solid waste pollutants.
- The scrap generated during manufacturing can be reground and extruded many times without quality reduction.
- If the lumber is burned, the gases are non-toxic. Treated lumber will emit toxic gases when it burns.
- Recycled plastic lumber manufacturing uses less energy than that required to produce the original plastic resins.

Next time you are planning to use dimensional lumber, consider the recycled alternative. Contact lumber yards, building supply stores or discount stores for availability in your area. When you purchase a recycled product you are also building a stronger market for your community's plastic containers.

It takes seven milk jugs to make one pound of plastic lumber. The average picnic table contains about 1,330 jugs.

Caps can't be used because they add unwanted color. They also contaminate the lumber since they contain a non-polyethylene liner.

Americans throw away 2.5 million plastic bottles every hour.

"Crosse" into the 21st Century

The Associated Recyclers of Wisconsin (AROW) is sponsoring its 12th annual conference on Mar. 16-17 at the La Crosse Center, LaCrosse. The theme is "Crossing into the 21st Century." Workshops on computer waste reduction and recycling as well as several tours will be offered on Monday, Mar. 15.

Representatives from Wisconsin and three neighboring states will present a "State of the States" session. Guest speakers will also make presentations on future recycling trends, market conditions and other waste management issues.

This annual event is a great opportunity to learn from experts and to share resources with colleagues. In addition to educational programs, evening social events promise to provide a good time for all participants.

There is still time to register for the conference. To register or receive additional information, contact AROW at (608) 745-0900, or email arow@palacenet.net.

THE NORTH EAST REGION

In each issue of this newsletter, we highlight waste reduction and recycling programs in one of DNR's five regions. In this issue, we focus on the North East Region.

Plastic Recycling Goes on and on in NE Wisconsin

The recycling symbol consists of three arrows that signify each stage of the recycling process. The first arrow represents material collection. The second arrow represents the actual remanufacturing process. The third arrow represents purchasing the new products and putting them back into the loop of recycling when possible.

THE SECOND ARROW: REMANUFACTURING USED PLASTICS INTO NEW PRODUCTS

What happens to the millions of plastic milk jugs, laundry detergent containers and soda bottles after they're collected from a community's drop-off site or curbside bin?

About 50 million pounds of HDPE and PET* are processed every year by Catenation Inc. in Green Bay, according to company President Randy Tess. Since 1993 the company has cleaned, ground and extruded post-consumer plastic bottles to make pellets. Catenation ships the pellets to national manufacturers that use them to make new plastic bottles, film and sheet. The company is one of the primary processors in the Midwest and processes much of Wisconsin's plastics.

Five years ago, Catenation received a DNR Solid Waste Reduction and Recycling Demonstration Grant to purchase equipment that detects many contaminants.

"The sorting process is highly mechanized," Tess said. "We have a multi-million dollar investment in detection and sorting equipment. The grant funding helped get us off the ground. However, it's still very important to start the sorting process at the beginning—at the household level."

*There are seven types of plastic containers. According to national regulations almost all plastic container bottoms must be labeled with one of these resin types:

1	PET	Polyethylene terephthalate
2	HDPE	High density polyethylene
3	V	Polyvinyl chloride
4	LDPE	Low density polyethylene
5	PP	Polypropylene
6	PS	Polystyrene
7		Other Multi-layer resins

Tess urges people to keep all nonrecyclable plastics and other materials out of their recyclable plastics. To further help in the sorting process, he also suggests that recyclers leave labels on containers, throw away all lids and do not tie bottles together with string.

"If we get just one #3 (polyvinyl chloride or PVC) peanut butter jar mixed in with a load of one million PET or HDPE containers," he said, "that one container can contaminate an entire load.

"PVC containers like brown liquor bottles or some types of shampoo, salad oils or window cleaners are the single most detrimental thing we get in our building," Tess said. "Even with expensive detection equipment, it is difficult to identify a PVC container that looks very similar to PET."

Catenation remains optimistic, even when faced with the recent decline in plastic resin prices.

"Our company's mission is to provide high quality recycled resins to the molding markets. Even with changes in the market, we intend to keep doing that," Tess said. "What do I say about the market? 'Be patient. It will change!'" ❄

Presto! Like Magic, New Products Made Out of Waste

Presto Products in Little Chute has been making two recycled products for 18 of its 38 years in business. Rain-Run™, a down spout splash block, is made from post-industrial stretch wrap (low density polyethylene, LDPE) cuttings, which originate at Presto's own production facilities or is returned to Presto by their customers. The splash block is used to disseminate water around gutters to prevent lawn flooding during heavy downpours.

Presto also manufactures Geoblock™, a porous paving system that provides support for heavy vehicles while allowing grass to grow through its grid-like membrane. Geoblock is made of post-consumer HDPE flakes or pellets and post-industrial LDPE scrap. Users have installed it as an effective ground cover for grass fire lanes or overflow parking areas.

"Trucks can drive on Geoblock and not compact or destroy grass," said Gary Bach, manager of Presto's Geosystems Business Unit. "It also prevents water from forming puddles or flooding a hard surface. The grid bottom allows water to soak into the underlying soil."

Bach recalls one of the biggest challenges early on—finding clean, used stretch wrap suppliers.

"We tried getting wrap from the food industry since there is so much out there," Bach said. "However, we found a lot of contaminants mixed in. We found broken jars, meat, candy, a snowmobile hood, even a universal joint in bales of post-consumer wrap. So now we only take it from non-food sources. We've refined what we accept now to ensure a clean end-product.

"We've found that problems arising from using recycled materials can be overcome with persistence and innovation," Bach said, "Our products have a good track record and we continue to look forward to using recycled materials. We've got it down to a science." ❄

Two Wisconsin Businesses Turn Bottles into Boards

Two Wisconsin companies are turning used plastic containers into a useful and attractive new product—dimensional lumber. N.E.W. Plastic Corporation and Recycled Plastics Industries Inc. (a division of U.S. Plastic Lumber) are the state's pioneer PET and HDPE plastic remanufacturers. Both are committed to using a secondary material to make a new product, despite declines in the plastic industry.

N.E.W. PLASTIC CORPORATION

Presidents of several Fortune 500 companies laughed at Irvin Vincent, president of N.E.W. Plastic Corporation, when he pitched an innovative idea to them in April 1973. His company made water and milk jugs out of virgin resin, and he was disturbed by the large amount of plastic scrap he was forced to landfill. Vincent also noticed his wooden shipping pallets often cracked, split and caused splinters in his workers' hands.

"They said I should have my head examined at the local hospital when I suggested my solution for both problems," Vincent said with a smile. "They all said there was no way I could make a plastic wood substitute using my company's plastic waste."

Yet in August 1973, Vincent returned to the office of a leading national corporation—with pieces of plastic lumber.

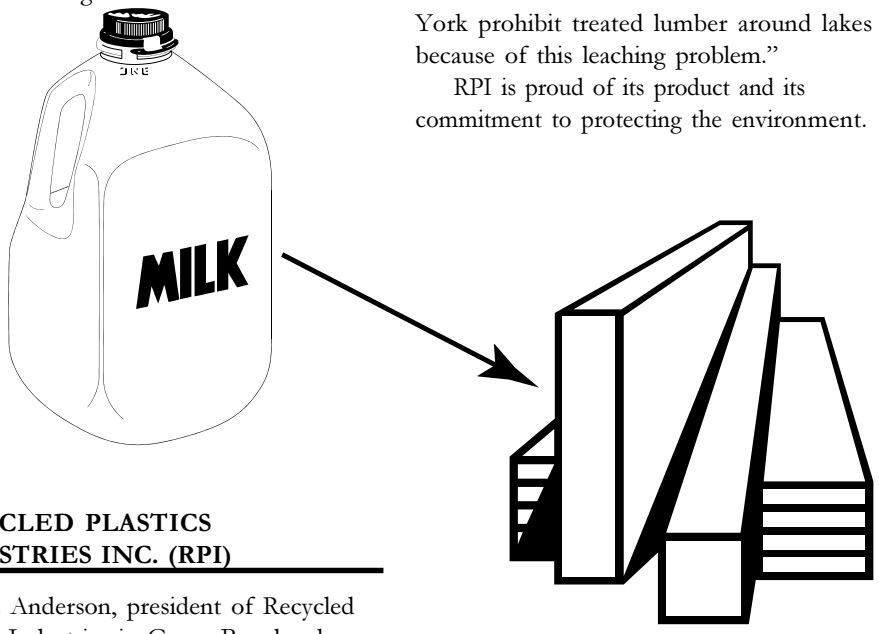
"They were amazed we did it," Vincent said. "By 1975, we bought our first piece of equipment dedicated to recycling our in-house scrap into recycled lumber."

Twenty-three years later, N.E.W. Plastic's 220 employees are still making lumber out of industrial scrap generated during their food and beverage manufacturing process and post-consumer pellets from Catenation. Vincent estimates that recycled lumber comprises about 40 percent of Catenation's business, making it the fastest growing part of the company. And he thinks builders are slowly realizing the usefulness of the wood.

"It's very versatile. We've sold it to Ducks Unlimited to make fish traps that never rot. We've sold it to municipal parks that used it to make fishing decks for handicapped people," he said. "My plastic dock at my summer place is 24 years old. It's still bright blue. I haven't replaced a board on it. In fact, the only maintenance I've ever done is to wash it twice."

Consumers can purchase dimensional lumber directly from N.E.W. Plastic facilities in Luxemberg and Coleman or from lumberyards. Vincent worked closely with a pallet manufacturer to substitute plastic for wood pallets.

"More industries are considering this kind of material substitution," he said. "We're here to connect customers with builders in their area who have experience with the lumber or have indicated an interest in using it."



RECYCLED PLASTICS INDUSTRIES INC. (RPI)

Lee Anderson, president of Recycled Plastics Industries in Green Bay, has been in the recycled lumber business since the early 1980s. RPI has grown from a small, private business to a subsidiary of U.S. Plastic Lumber, a publicly-traded corporation on NASDAQ.

"Our mission is to make money and protect the environment, both of which *can* be and *have* to be done," Anderson said. To accomplish both goals, the company annually melts and extrudes 8 million pounds of post-consumer plastic scrap into lumber.

"Our first choice is used, flaked milk jugs from processors to get our earth-tone boards," Anderson said. "About two percent of the material we buy is laundry detergent containers, which we use to make brown or black boards. We also use some post-industrial scrap if we can't get the milk jugs."

It takes just a few minutes for the clean plastic flakes to be extruded into lumber. The pieces are air and water cooled on site. After almost 20 years in the business, Anderson has discovered some beneficial uses for plastic lumber as an alternative to wood.

"Farmers found that if they put down a plastic floor, water wouldn't be absorbed into the walls and rot the barn," Anderson said. "Plastic wood eliminates leaching of hazardous preservatives in treated piers and docks into lakes. Some cities in New York prohibit treated lumber around lakes because of this leaching problem."

RPI is proud of its product and its commitment to protecting the environment.

"We try to be as environmentally-friendly as we can at the front end and throughout the entire company," Anderson said. "We do not emit any harsh chemicals in the air. We water-cool the extruded lumber, but all water is filtered and cleaned after we use it. We have also reduced our water demands so we now use as much as a family of four uses in a three-month period."

He added, "Recycled lumber is not a miracle cure. It won't be everything to everybody. But if you want a product that lasts and is practically maintenance-free, we've got it." ❄

Old Paint Gives a New Look to Collection Cans

Faced with gallons of unwanted paint, high school students in Taylor County had a barrel full of fun—and helped the environment.

Like many communities, Taylor County holds an annual "Cleansweep" event where residents can bring unwanted household hazardous materials to a community site for free disposal. This year's Cleansweep yielded about 20 gallons of oil-based paint. Ordinarily, the paint must be disposed of as a hazardous waste, but Arlen Albrecht and Larry Peterson had a better idea.

Albrecht, a community resource development agent at UW-Extension, and Peterson, Taylor County's solid waste coordinator, invited students from three county high schools and from the local 4-H club to brush up on their art skills and turn 100 used, 55-gallon drums into painted masterpieces for community use.

Almost 100 students gathered at the county shop building to decorate the barrels with environmental themes. After three hours of brush work, the rejuvenated drums were ready to roll. Maintenance crews installed the painted drums in city, village and county parks for garbage and recyclables collection.

"We purchased used, steam-cleaned and primed barrels from Tri-State Drums in Schofield for $7 each," Albrecht said. "We also paid $5 per painted barrel to the students." The students used their money for scholarships, educational trips and contest awards.

Taylor County also picked up additional expenses for brushes, drop cloths and snacks for the paint crew. In total, the event cost the county about $13.50 per barrel.

"There are numerous benefits to a program like this," Albrecht said. "Youth and the general public received important environmental messages. We provided garbage and recycling containers for area parks. We also demonstrated a strong partnership between schools and local government.

"And," he added, "we put good paint and valuable barrels back to work."

For more information, contact Arlen Albrecht at (715) 748-3327. ❄

WasteCap Completes First Year of Business Tours

WasteCap Wisconsin conducted seven Talk & Tours throughout the state during its first year as a nonprofit organization.

"The tours provide businesses an opportunity to network with each other, solve problems and see money-saving waste reduction practices," said Jenna Kunde, executive director. "The tours also meet WasteCap's mission of providing waste reduction and recycling assistance through business-to-business peer exchange."

The Talk & Tours highlighted innovative solid waste management practices at these businesses:

Land's End, Madison—textile and paper reduction/recycling during clothing production.

Pandl's Restaurant, Bayside—kitchen waste reduction/recycling and food waste composting.

Control Resources, Inc., Recycling Service, Woodville, inorganic sorbent recycling (reclaiming industrially-generated used oil from absorbents).

Protect the Planet, Waukesha—plastic hanger, PET strapping, stretch wrap and other plastic recycling using materials generated at department stores.

Tosca Limited, Green Bay—repair and recondition industrial-grade packaging and shipping containers including cheese boxes, stainless steel beer kegs, pallets and crates.

Goodwill Industries of South Central Wisconsin, Madison—reuses materials and computers from businesses, reuses/recycles clothing and textiles.

Potter Design Group and the Willy Street Coop, Madison—renovating an old building using energy-efficient and recycled materials and reducing toxic materials.

The series was funded by the DNR's Solid Waste Reduction and Demonstration Grant Program, the Talk & Tour hosts, Faherty, Inc., UW-Extension's Solid and Hazardous Waste Education Center, Wisconsin's Buy Recycled Business Alliance and the Green Building Alliance.

A grant from the Recycling Market Development Board will allow WasteCap Wisconsin to hold five Talk & Tours in 1999, focusing on waste reduction, reuse and recycling of construction and demolition debris.

WasteCap recently moved to a new location. They can be reached at 2647 N. Stowell Ave., Milwaukee, WI, 53211; (414) 961-1100; fax (414) 961-1105; email wastecap@envirolink.org. WasteCap's website is http://www.enviroweb.org/wastecap-wi. ❄

America Recycles Day Promotes Awareness

Many Wisconsin communities and businesses celebrated the second annual America Recycles Day on November 15. Over 7,000 Wisconsin recyclers promised to continue recycling and buying recycled-content products. That's a 40 percent increase from last year's event. The national event was organized to promote recycling and buying recycled products. Several communities organized unusual promotions like these:

- In six hours, Madison residents brought in approximately 24 tons of computers for reuse and recycling during a collection event sponsored by the City of Madison, Dane County and the DNR.
- Over 50 volunteers and 10 divers at Governor Nelson State Park picked up four containers of recyclables and one dumpster of trash from the shoreline and bottom of Lake Mendota.
- Volunteers from Richland County sold about 200 reusable cloth bags to educate residents about waste reduction and recycling.
- Mike Weiler of the Wisconsin Rapids Engineering Department discovered that total recycling tonnage for his town increased by 11 percent after he handed out pledge cards and talked with people about recycling.
- Mary Barney and a team of volunteers from St. Croix County collected from 93 people over six tons of good, used clothing and accessories for Goodwill Industries.

Wisconsin organizers at all levels were frustrated by late supplies of promotional materials due to complications with the national sponsors and executive committee. Some supplies arrived after they were needed, and some participants did not receive any because supplies ran out.

"Overall, I was encouraged by the creative events and the positive results achieved by participants," said Kathy Oppegard, Wisconsin Coordinator.

Eight Wisconsin residents won prizes donated by the following businesses or organizations: Barn Again, City of Milwaukee, Coming Around Again, Department of Natural Resources, Here Today-Here Tomorrow, Home Environment, Milwaukee Community Service Corps, REI and Samsonite Luggage.

For more information, call Kathy Oppegard at the DNR at (608) 264-6053.

Businesses Investigate New Markets

The Department of Commerce's Recycling Market Development Board (RMDB) recently funded five projects to investigate the use of secondary materials in the production of new products. The board has $4.2 million available to new or expanding businesses this fiscal year that ends June 30.

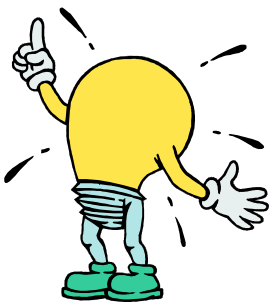
These companies received funds from RMDB in December:

- **Hansen's Pallets, Inc.**, Green Bay, $35,000 for a tub grinder to expand their pallet reclamation process.
- **Grantek**, Green Bay, $100,000 to support a technical evaluation of new technology that recovers cellulose fiber from paper mill sludge.
- **Reynolds Urethane Recycling, Inc.**, Middleton, $15,000 for an early planning grant to study carpet recovery from businesses.
- **Triemstra General Contractors**, Markesan, $12,375 for an early planning grant to investigate the use of recycled high density polyethylene in the door manufacturing industry.
- **St. Joseph Construction Company**, La Crosse, $15,000 for an early planning grant to research the use of aggregate material as construction fill made of construction and demolition debris and recycled glass.

The full board meets quarterly, and meetings are open to the public. Here is the 1999 schedule:

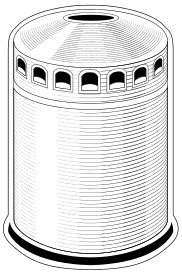
March 15, La Crosse
May 26, Wausau
September 10, Superior
December 10, Fond du Lac

For information on other committees and funding schedules, contact Jennifer Ketola at (608) 267-9548.



Group Studies Used Oil Filter Recycling

The Council on Recycling recently formed a subcommittee to study used oil filter recycling. In response to a legislative provision, the subcommittee will look at the effectiveness of voluntary measures to promote recycling of oil filters used in motor vehicles and other machinery. The final report will recommend ways to increase oil filter recycling rates. It will be submitted to the legislature by the end of 1999.



The subcommittee, made of representatives from industry, UW-Extension, DNR, and other Council members, held its first meeting in December. Anyone interested in joining the subcommittee should contact Dan Fields, subcommittee chair, WI DNR, CE/6, PO Box 7921, Madison, WI, 53707-7921; (608) 266-5334; fax (608) 264-6293; or "fieldb@dnr.state.wi.us."

The Council on Recycling was created by the state's recycling law to advise the DNR, the governor and the legislature on issues involving recycling. The seven-member group, made of representatives from municipalities, landfills, industry and interested citizens, is appointed by the governor. Each member serves a four-year term.

An Update from the Solid and Hazardous Waste Education Center

Several new projects are underway at UW Extension's Solid and Hazardous Waste Education Center (SHWEC) to provide waste reduction, recycling and waste management assistance to communities and businesses.

SHWEC continues to work cooperatively with several agencies on a computer reuse and recycling education grant funded by the Recycling Market Development Board (RMDB). A focus group met in January to identify problems and issues related to computer reuse and recycling. The group is also planning a one-day workshop in April to define Wisconsin's computer reuse and recycling infrastructure.

SHWEC and the DNR received funding from the U.S. Environmental Protection Agency (EPA) to study Wisconsin's volume-based fee programs, also known as Pay-As-You-Throw (PAYT) programs. The project's goals are to increase the cost-effectiveness of these programs and to share information with communities in the state. SHWEC is planning two workshops in May for communities that want to start or improve PAYT programs.

SHWEC's programs also benefit businesses and industries. SHWEC's Industrial Recycling Assistance Program (IRAP) is well on the way toward achieving its goal of making 40 waste reduction and industrial recycling assessments. RMDB funded the assessments for 1998-99. Assessments and other technical assistance have addressed a wide range of industrial waste problems, especially materials included in the RMDB's Targeted Investment Strategy such as wood pallets and plastic film.

SHWEC also works cooperatively with the Wisconsin Manufacturing Extension Partnership. SHWEC staff have developed virtual compliance assistance centers for printers and the chemical industry with funding from U.S. EPA. SHWEC, DNR and the metal finishing industry are implementing the U.S. EPA's Common Sense Initiative for Metal Finishers in Wisconsin.

For information on these and other SHWEC projects, visit the SHWEC website at http://shwec.uwsp.edu/, or call SHWEC-Madison at (608) 262-0385 or the Green Bay office at (920) 465-2327. ❄

Businesses Get Help Going Green

The Solid and Hazardous Waste Education Center (SHWEC) recently updated their publication, "Wisconsin Business Development Assistance: Where to Look for Help on Waste Reduction, Recycling, and Other Environmental Issues." The directory helps businesses and entrepreneurs find answers to environmental questions as they plan, expand or improve their operations. It lists technical and financial resources available to Wisconsin businesses including business planning, waste reduction, recycling and other environmental issues.

An electronic version is available at www.wasteassist.com. Enter the site, then click on "Wisconsin Business Development Assistance Directory." This web site is under construction; it will contain additional sources of waste reduction and environmental information in the near future.

For a paper copy of the directory, contact Chris Vollmar at (920) 465-2327, or e-mail at vollmarc@uwgb.edu. ❄

MARK YOUR CALENDAR

March 15
Recycling Market Development Board meeting, LaCrosse. For more information contact Jennifer Ketola at (608) 267-9548.

March 15-17
Associated Recyclers of Wisconsin (AROW) 12th annual conference, LaCrosse. For more information, call (608) 745-0900.

March 23-24
Electronic Product Recovery and Recycling 1999 Conference, Double Tree Hotel/National Airport, Arlington, VA. Registration fee is $295 which includes two lunches and a reception. Registration materials available at http://www.nsc.org/ehc/epr2.htm.

March 26-27
Sustainable Green Bay Workshop, UW-Green Bay campus.

March 26 sessions are open to the public. Sponsored by DNR and Brown County partners. For more information contact Annette Weissbach, DNR-Green Bay, (920) 492-5865.

May 3
Grant offers are expected to be made to successful applicants to the DNR Waste Reduction and Recycling Demonstration Grant (WRRDG) program. For information contact Sheila Henneger at (608) 266-9426 or hennes@dnr.state.wi.us.

May 26
Recycling Market Development Board meeting, Wausau.

July 1
25% grant payment mailed for the Recycling Grants to Responsible Unit program's 1999 grantees. For information contact JoAnne Farnsworth at (608) 267-7154 or farnsj@dnr.state.wi.us.

August 2
Applications to the DNR WRRDG program are due. For information contact Sheila Henneger at (608) 266-9426 or hennes@dnr.state.wi.us.

September 10
Recycling Market Development Board meeting, Superior.

For More Information . . .

The DNR provides free publications about a variety of waste reduction and recycling topics. In this issue we highlight new materials about vermicomposting (composting with red worms), convenience stores; and Wisconsin waste management statistics.

To order any of these publications, call (608) 267-0539; fax your order to (608) 267-2768; or write to Laura Madsen, DNR Bureau of Waste Management, PO Box 7921, Madison, WI, 53707.

RECYCLING AND WASTE REDUCTION AT CONVENIENCE STORES

(CO-087)

Since this fact sheet was announced in our last newsletter, over 1,800 copies have been mailed to convenience stores throughout Wisconsin. The Wisconsin Convenience Store Association has also promoted it to its members.

How to Use This Publication

Order multiple copies, and take them to your local stores and gas stations that sell convenience products.

A NEW WIGGLE ON WASTE

(CE-243)

This Wisconsin *Natural Resources* magazine supplement introduces readers to simple vermicomposting methods. Meet some Wisconsin residents who wiggle away their waste and learn how you can do so, too.

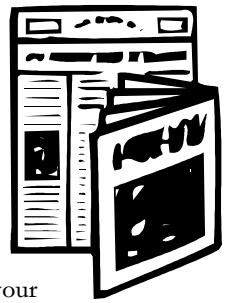
How to Use This Publication

Order copies for distribution at local nurseries or garden centers, or at public locations in your community.

VERMICOMPOSTING: A TEACHER'S GUIDE FOR COMPOSTING WITH WORMS

(CE-244)

The DNR and UW-Extension cooperatively produced this teaching guide on vermicomposting. It includes background materials, teaching activities and instructions on how to construct and maintain a worm composting system in school. DNR recently distributed it to fourth and eighth grade teachers in all Wisconsin schools and to all nature/environmental centers.



How to Use This Publication

Order copies for your libraries; check with the school district or nature centers to make sure they received it.

WISCONSIN RECYCLES: CITIZENS SPEAK OUT IN WORDS AND ACTIONS

(CE-251)

This fact sheet (inserted in this newsletter) provides a summary of key facts from the DNR's 1998 household recycling survey and the *Wisconsin Waste Characterization & Management Study Update* (Franklin Associates, LTD. 1998).

How to Use This Publication

Extract these statistics to promote recycling success in your community's newsletters, news releases, annual reports or at annual meetings. ❄

The World of Waste on the Web

To highlight topics covered in this issue, we selected these related web sites:

BUREAU OF WASTE MANAGEMENT, DNR

The bureau's web site has recently expanded to include a recycling page. The recycling page offers information on "The Recycling Markets Directory, 1997-1998 edition" and a list of DNR recycling contacts. The directory helps municipalities and businesses find markets for used materials in 14 categories by listing hundreds of businesses statewide. The contact list provides names of DNR staff who can offer businesses and municipalities financial or technical assistance on a variety of topics.

The bureau's site also includes pages on hazardous wastes, mining and solid waste.

The address for this site is **http://www.dnr.state.wi.us**.

Go directly to a bureau and highlight Waste Management, then click on "Recycling."

RECYCLING CONNECTIONS

The commercial recycler InfoMagic provides a page of links to many sources of information about computer recycling. Options include a national directory of computer recycling programs, computer recycling resources, computer recyclers mailing list, used computer exchange and auction services, and computer topics in the news.

The address for this site is **http://www.infomagic.com/~abyte/byte/others/**.

THE PAPERLESS OFFICE

The average U.S. office worker uses 10,000 sheets of paper every year! Lawrence Berkeley National Laboratory offers a comprehensive look at how to reduce paper usage in a typical office on its "Environmental Energy Technologies Division" page. This site contains interesting facts about U.S. paper use, international comparisons of paper use, a description of new technologies that "erase" toner from used paper, the environmental demands of paper manufacturing and tips for becoming a paperless office.

The address for this site is **http://eetd.lbl.gov/paper**.

COMPUTER RECYCLING

5R Processors, LTD, is a full service computer and electronics processor with two processing facilities in Glen Flora and Catawba, Wisc. The company recycles or refurbishes computers and electronic components as well as precious metal recycling services. The web site describes their reclamation processes and preparation guidelines for different components.

The address for this site is **http://www.5rcom.com**.

We highlight several web sites in each issue of this newsletter. Inclusion in the newsletter does not represent a departmental endorsement of the sites. Send information about your favorite sites to the Managing Editor (address on page 2). ❄